## Metrics in the Modern Factory

American manufacturing – it's all been lost to low-cost producers overseas, right? Well not so fast there, fellow citizen. The good old USA is starting to see resurgence in this core industry, and for good reason. What used to be called "The Factory of the Future" is now coming online rapidly to American shop floors, enabling efficiencies that rival per-unit production costs anywhere in the world.

Today's smart factory contains machines that can produce and transmit a wealth of telemetry data that describes operational events, measurements and conditions in great detail. And the industry has rolled out a standard called 'MTConnect' that allows machines from most any vendor to route this data in a common format. Sounds good so far, doesn't it?

But who's going to collect all this wonderful data? Who's going to store it in a meaningful history? Who's going to perform analytics on it based on rules formed by your experienced floor managers and engineers that can characterize best-practice for each machine on your floor? Enter MetricMaster®.

MetricMaster® connects to your factory floor data pipe, extracts the critical data from that pipe, then molds this raw data into 'metrics' that measure performance affecting Overall Equipment Effectiveness ('OEE') components such as machine availability, throughput, defect rates and much more. It merges actual operational data with plan data that your experts can define in advance. It produces charts that inform users how their part of the shop is doing over time vs that plan (see sample below):
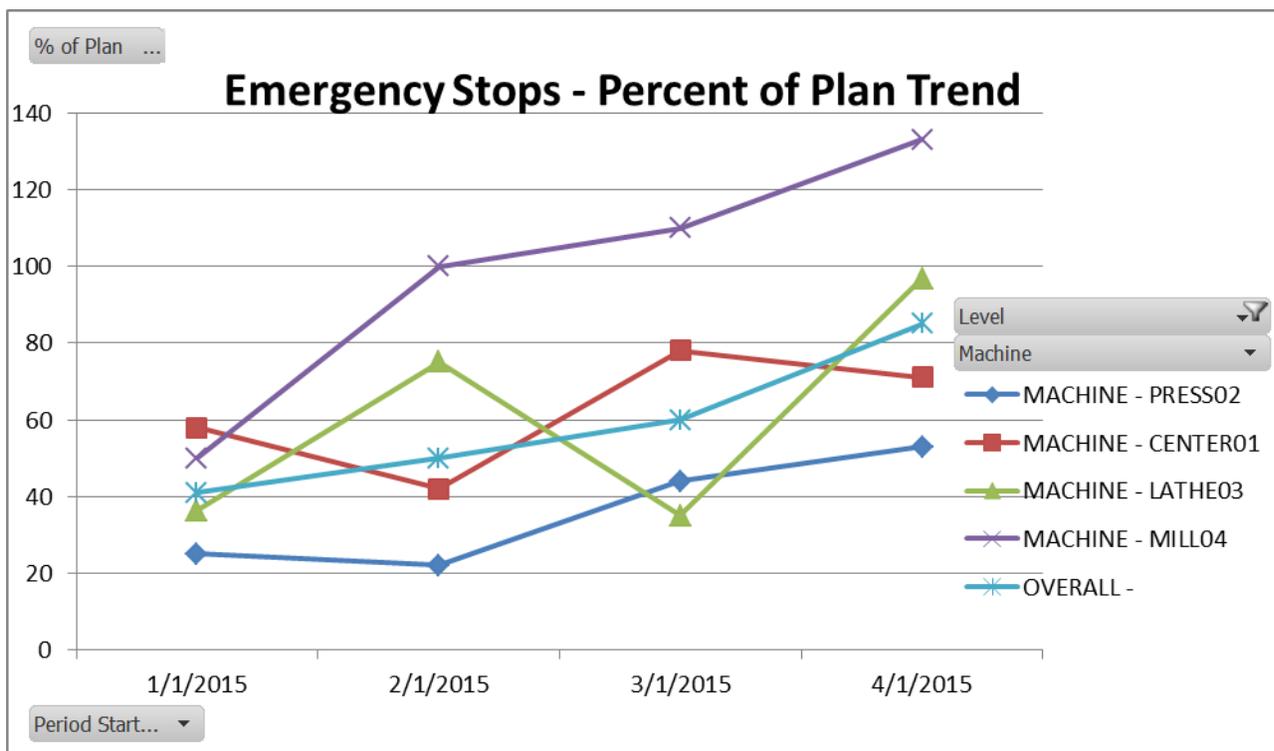


And MetricMaster® can automatically send email alerts to the right users when any metric's performance has fallen out of its pre-defined acceptable range. In a nutshell, MetricMaster® is the smart app that stands by your side each production day, keeping an eye on all of the trending details needed to boost your shop's efficiency.

With MetricMaster®, YOU control the items to be measured. Let's face it, each shop is different. Factors such as operator experience, machine/tool age, on-floor environment, shift counts, machine center complexity, sensor outfitting, per-kwh energy costs and many other operating properties all affect what could and should be measured. Here's a small sample of some of the metric possibilities:

- Time to Complete multi-step Machining Process - 95th Percentile (per Production Model)

- Percentage of Units requiring error/manual intervention (per Production Model)

- Idle Percentage (per Machine/Cell)

- Availability (Uptime) Percentage (per Machine/Cell)

- Max Pressure & Temperature – 99th Percentile (per Machining Step)

- Average Drill Life Hours (per Drill Bit Size/Type/Brand)

- Average Non-Idle Hourly KW consumed (per Machine)

The folks that have been around your shop for a while will have a good feel for your highest-impact metrics. And once they start gaining visibility to the per-machine level of detail that they never had before, you can count on an accepted and entrenched continuous-improvement program. That's a huge payoff, because such a program can keep your shop efficiency competitively superior over the long haul.

MetricMaster®. Built and supported by Terallel Systems, a USA tech company looking out for USA manufacturers. Find out if our down-to-earth approach fits your liking by contacting us at:

sales@terallel.com

(513) 827-6932